

CLAIM AMENDMENTS

For convenience, the claims in this application are as follows:

1. (Previously Presented) An image pickup device comprising:
pixels each including a photoelectric conversion unit and a transfer switch for transferring photoelectric conversion charges generated by the photoelectric conversion unit to a charge accumulation unit for accumulating said photoelectric conversion charges; and
driving means for applying a plurality of pulses to the transfer switch to transfer said charges generated by the photoelectric conversion unit via the transfer switch.
2. (Previously Presented) An image pickup device according to Claim 1, wherein said pixel includes amplifying means for amplifying and outputting a photoelectric conversion signal corresponding to the charges transferred via the transfer switch.
3. (Original) An image pickup device according to Claim 2, wherein said driving means has an operation mode for resetting an input portion of said amplifying means and outputting a reset signal generated upon resetting from said amplifying means and an operation mode for outputting the photoelectric conversion signal from said amplifying means, and wherein said image pickup device further comprises subtracting means for subtracting the reset signal from the photoelectric conversion signal.

4. (Original) An image pickup device according to Claim 3, wherein the photoelectric conversion signal and the reset signal include correlated signals.

5. (Original) An image pickup device according to Claim 1, further comprising a circuit for controlling a read operation of a signal from said pixel or processing the signal from said pixel, wherein the transfer switch includes a MOS transistor, and wherein said pixel and said circuit are formed by CMOS processes.

6. (Original) An image pickup device according to Claim 2, further comprising a circuit for controlling a read operation of a signal from said pixel or processing the signal from said pixel, wherein the transfer switch and said amplifying means include MOS transistors, and where said pixel and said circuit are formed by CMOS processes.

7. (Original) An image pickup device according to Claim 1, further comprising a circuit for processing a signal from said pixel and a lens for focusing light onto said photoelectric conversion unit.

8. (Previously Presented) A driving method for an image pickup device having pixels each including a photoelectric conversion unit and a transfer switch for transferring photoelectric conversion charges generated by said photoelectric conversion unit to a charge accumulation unit for accumulating said photoelectric conversion charges, comprising:

a driving step of applying a plurality of pulses to the transfer switch to transfer the charges generated by said photoelectric conversion unit via said transfer switch.

9. (Previously Presented) A driving method according to Claim 8, wherein the pixel includes amplifying means for amplifying and outputting a photoelectric conversion signal corresponding to the charges transferred via said transfer switch.

10. (Original) A driving method according to Claim 9, further comprising:

a step of resetting an input portion of said amplifying means and outputting a reset signal generated upon resetting from the amplifying means;

a step of outputting the photoelectric conversion signal from said amplifying means; and

a step of subtracting the reset signal from the photoelectric conversion signal.

11. (Original) A driving method according to Claim 10, wherein the photoelectric conversion signal and the reset signal include correlated signals.

12. (Original) A driving method according to Claim 8, wherein said image pickup device comprises a circuit for controlling a read operation of a signal from the pixel or processing the signal from the pixel, wherein said transfer switch includes a MOS transistor and the pixel and the circuit are formed by CMOS processes.

13. (Original) A driving method according to Claim 9, wherein said image pickup device comprises a circuit for controlling a read operation of a signal from the pixel or processing the signal from the pixel, wherein the transfer switch and the amplifying means include MOS transistors and the pixel and the circuit are formed by CMOS processes.

14. (Previously Presented) A driving method for an image pickup device having pixels each including a photoelectric conversion unit, a transfer switch for transferring a photoelectric conversion signal generated by said photoelectric conversion unit and a signal line outputting a signal from the pixel, comprising:

a driving step of applying a plurality of pulses to the transfer switch to transfer the signal generated by said photoelectric conversion unit via said transfer switch before reading out a signal from the pixel to the signal line.

15. (Previously Presented) A driving method for an image pickup device having pixels each including a photoelectric conversion unit and a transfer switch for transferring a photoelectric conversion signal generated by said photoelectric conversion unit, comprising:

a reading step of transferring a noise signal from the photoelectric conversion unit; and

a driving step of applying a plurality of pulses to the transfer switch to transfer the signal generated by said photoelectric conversion unit via said transfer switch before said reading step or after said reading step.